THE PREVENTION OF BLINDNESS AND THE INSTRUCTION OF THE BLIND CHILD.

G. E. de Schweinitz

HV2333
D47

M.C. MIGEL LIBRARY
AMERICAN PRINTING
HOUSE FOR THE BLIND

410.78.MIGE

THE PREVENTION OF BLINDNESS AND THE INSTRUCTION OF THE BLIND CHILD

BY

G. E. de SCHWEINITZ, M.D.

PHILADELPHIA, PA.

(Read at the Annual Meeting of the Medical Society of the State of New York, at Albany, April 16, 1912)

REPRINTED FROM THE
NEW YORK STATE JOURNAL OF MEDICINE
Published Monthly by the
MEDICAL SOCIETY OF THE STATE OF NEW YORK
JUNE, 1912

HV 2333
D47
copy one

THE PREVENTION OF BLINDNESS AND THE INSTRUCTION OF THE BLIND CHILD.

By G. E. de SCHWEINITZ, M.D.,

PHILADELPHIA, PA.

THE title of the subject assigned for this evening's discussion is so comprehensive that it is impossible to do more than touch, and that very superficially, on one or two phases of it. In general terms blindness is ocular in the sense that the eye itself is the seat of the lesion which destroys the sight, or central in the sense that the lesion is situated in some portion of the brain which is concerned with the conduction and with the registration of visual impressions, the causes concerned with impairment and with destruction of vision being either congenital or acquired. With the congenital blindness I shall have little concern except in incidental mention; of acquired blindness I am able to refer only to a few conspicuous types, the management of which has been the object of much study and attention on the part of physicians, publicists and teachers of the blind. Of the various diseases responsible for acquired blindness there is one which takes prominent position, to wit,

Ophthalmia Neonatorum, a form of inflammation of the conjunctiva, which, as you know, usually begins on the third day after birth, and which in sixty to seventy per cent. of properly examined cases is due to an infection of the con-

4103-MIGEL

RESEARCH DEPT. LIBRARY

junctiva caused by a special micro-organism, the gonococcus of Neisser, the infecting material gaining entrance into the conjunctival sac during the birth of the child.

While there are no complete statistics showing the prevalence of ophthalmia neonatorum, an approximate idea can be obtained by studying the admissions to schools for the blind,[1] and in any list of carefully tabulated causes of blindness this disease far exceeds in potency any of the other etiological factors. Permit a few examples, and I confine myself not merely to general statements, but to careful statistical information. Thus, N. Bishop Harman,[2] writing in 1907, showed that among the scholars of the schools for the blind established by the School Board for London, the percentage of blindness arising from ophthalmia neonatorum was 36.36. while if all those who in later years would pass as badsighted and not blind were eliminated, the percentage of blindness from this disease alone would exceed 40. This closely corresponds with statistical information gathered by many writers on this subject in various continental countries, where it will be found that this percentage varies from 34 to 46, and even in the most favorable tabular statements, favorable in the sense that the frequency of this disease in causing blindness has diminished, the percentage is not less than 25 or 26. To put this matter in another form, I may say that Mr. Harman, writing in 1907, has pointed out that among every 100 children born in the City of London one child suffered from purulent inflammation of the eyes in the first

[1] Consult Public Health Bulletin, No. 49, 1911, on Ophthalmia Neonatorum, by J. W. Kerr.
[2] Preventable Blindness, New York, William Wood & Co., 1907.

RESEARCH DEPT. LIBRARY

few days of life, and of every 2,000 children born, one is blinded, or partially blinded, by this disease. Is it small wonder, then, that writing nearly a quarter of a century ago, Rivièrè exclaims that "purulent ophthalmia of this type alone is responsible for nearly one-third of the cases of blindness, and has placed in the care of Europe well-nigh 100,000 victims," and in the same period of time, as Lucien Howe and other notable and noble workers in our own country have shown, fully 32 per cent. of the blind owe their affliction to this disease? Now the humiliating thing is this, that at the present time the matter has not greatly improved. Thus, in the United States and Canada in 1907 in ten schools for the blind, 24.38 per cent. of those admitted had lost their sight from this cause, and in 1910 out of 351 admissions to certain schools in the same countries, the percentage was 23.9.[3] In our own country there are at least 100,000 blind persons, and the eyesight of 40,000 of these 100,000 unfortunate ones, under proper precautions and with suitable treatment, could have been saved, or at least partially saved, in the sense that practical or total blindness could have been prevented. Referring particularly to ophthalmia neonatorum, it may be said that from one-tenth to one-eighth of all of the blindness in this country is due to this cause, and that therefore of these 100,000 blind persons, 10,000 of them are blind from this disease, and in the largest number of instances this blindness could have been prevented.[4]

It is therefore altogether fitting and proper

[3] Consult J. W. Kerr, Health Bulletin 49, 1911.

[4] Consult also Prevention of Infantile Blindness, by C. F. F. Campbell, Annals Amer. Acad. Polit. and Social Science, March, 1911.

that this subject should come into discussion at the meeting of the Medical Society of the great State of New York, if for no other reason than this, that just in this State the first real movement of reform in the methods of preventing blindness from this cause was started. For more than a quarter of a century one of your distinguished citizens and fellow members, with quiet persistence, with conscientious effort, and with, I am happy to say, in many instances distinguished success, has wakened the conscience of the people and stimulated the efforts of the physicians and legislators to wipe this disgrace from our land. I need not tell you that I refer to Dr. Lucien Howe of Buffalo.

Time does not permit a discussion of the splendid efforts that are being made by various Societies in Massachusetts, Maryland, Ohio and other States, and in New York under the auspices of the Russell Sage Foundation, nor of the work of the Committees of the American Ophthalmological Society, the first, indeed, which were active in this interest, of that of the American Medical Association, and of the newly established Association for the Conservation of Vision, and especially of the efforts of another one of your members and citizens, who has so conspicuously distinguished himself in this public-spirited task, Dr. F. Park Lewis of Buffalo.

To save human beings from the affliction of blindness is work of the noblest, and that alone should be sufficient inspiration for any amount of concerted effort, but if there is any one who wishes to discuss the matter from the economic standpoint alone, he can easily be satisfied. Dr. I. W. Voorhees[5] writes thus: "When it is once thor-

[5] The Prolongation of Life, *The Independent*, February 26, 1912.

oughly realized by business organizations and by commercial interests that the present waste of life means an enormous loss, not only to the country at large, but also to the business interests themselves, steps will be taken to prevent the waste of life and energy which has been going on for so long a time unchecked." "Professor Fisher says," he continues, "that $1,500,000,000 annually is the very lowest at which we can estimate the preventable loss from disease and death in this country." These are staggering figures. Exactly what share of this enormous economic loss belongs to blindness it would be difficult to compute. But here are some data. As Mr. Campbell points out, the cost to the State of maintaining a blind person throughout the duration of his life, owing to imperfect information is hard to calculate, but it approximates roughly $10,000. He further shows that for the education and maintenance of the victims of ophthalmia neonatorum attending state schools for the blind in Massachusetts, New York, Ohio and Pennsylvania, the annual expenditure of public funds in excess of the cost of educating the same number of seeing children in public schools, approximately is $110,000, and if all figures were available, the total annual excess cost in these four states alone for the education and maintenance of children blind from this, nearly without exception, preventable cause, would not fall short of $150,000. Let me put this more directly for one state alone.[6] In Massachusetts at least 100

[6] Report of the Massachusetts Commission for the Blind, June, 1909. Assistant Surgeon General Kerr points out that in 1910 Massachusetts appropriated $40,000 for the support of its blind asylums, the State of New York, $110,000; while the biennial appropriation for Pennsylvania for its institutions of the same kind in 1909 amounted to $265,000. If to these figures are added private expenses, amounts spent by states and cities, and

of the young blind have lost their sight from ophthalmia neonatorum. These 100 young persons will eventually cost the state $300,000 for education alone, while the economic loss to the Commonwealth, because of their life-long dependence, will be many times that sum. Now if this is true of four states in this great Union, and of one state where the cost of blindness has been carefully calculated, what do you suppose the bill must be when the entire country sends its account? Why, then, should any one stay his hand, or lessen his endeavor in this most important public work?

Many schemes for the elimination of this preventable disease have been brought forward: Education, compulsory notification, the punishment by law of offenders against properly constructed legal regulations, and compulsory prophylaxis.

(a) *Concerning Education on this Matter.* This necessarily most intimately concerns the midwife, nurse, or other person having charge of a new-born child, but it should not end here. While the dangers of ophthalmia neonatorum are necessarily dwelt upon by those teachers in schools of medicine whose work is concerned with diseases of the eye, medical students should receive similar instruction from the chairs of obstetrics, bacteriology, sanitary science and hygiene. If these lessons are thus early instilled, these students becoming general practitioners of medicine will have a better sense of their responsibility when they go out to their life's work than, I regret to say, is possessed by some physicians

---

an estimate of the potential earning power of individuals thus disabled, the economic loss on account of ophthalmia neonatorum is enormous.

at the present time. With this knowledge, and with this respect for responsibility, these doctors will readily join in a united effort to secure the passage by our legislative assemblies of needed laws which may be enforced by local boards of health.

The qualifications necessary for the registration of midwives in this and other countries should more often and more satisfactorily include proficiency of knowledge on this subject. The recommendation of the capable Committee on Ophthalmia Neonatorum of the American Medical Association that there shall be a distribution by boards of health of circulars of advice to midwives and mothers, giving instructions as to the dangers. method of infection and prophylaxis of ophthalmia neonatorum is to be commended, but I am satisfied that quite as much to the point is a more intimate education on this subject of mothers of families, especially in poor and crowded districts. There is a widespread belief that the disease occurs most largely among the very poor emigrant, non-English-speaking class. Boston statistics indicate that this is not always the case, for among 116 cases of ophthalmia neonatorum treated in the Gardner Ward of the Massachusetts Charitable Eye and Ear Infirmary it was found that 73 had come from English-speaking parentage and 63 from homes that were considered to be good. Still, in some work in which I have been interested, undertaken through the Health Committee of the Philadelphia Civic Club, it has been found that if at stated meetings some one who is popular in the community, perhaps in the ward, if it be a great city, who is willing in simple language to instruct, not merely the poor but those who are

in modest circumstances, and therefore whose homes are good, in the dangers of this matter, much good will result. It has been further found, especially when dealing with Hebrews, Italians, Russians, Poles and Hungarians, who are apt to herd together and are clannish in their instincts and habits, that if some one of their own number (for there is very apt to be a patriarch, a sort of a head man among them), is willing to undertake a lecture of this kind in the language spoken by the majority of the audience, which has previously been prepared for him, the mothers will listen far better than they will to the social worker herself or to any physician who somewhat perfunctorily addresses them and will surely learn more than from any distributed letter of instruction. Under these circumstances the mother herself becomes interested and is made to understand that she must demand as soon as her child is born to know whether proper prophylaxis prior to the birth, or prophylaxis as applied to the eyes of the child after the birth, has been used, and if it has not been used, to know why, and if the answers are still unsatisfactory, to insist upon proper attention and attendance.

(b) *Compulsory Prophylaxis and the Free Distribution of a Prophylactic.* Numerous statistics gathered by various writers on this subject, notably by Howe of our own country and Stephen Mayou in Great Britain, indicate that there has been a more or less distinct decrease in the number of cases of ophthalmia neonatorum since the introduction in 1881 of the Credé-prophylactic treatment. They naturally refer in largest measure to the satisfactory and scientific use of this remedy in large institutions where

trained hands and trained service are available. Whether it is wise to send out freely ampules containing even a weak solution of nitrate of silver (for this is the prophylactic which a collective investigation made by the Committee of the American Medical Association indicates is the one which has proved of the greatest service), is hardly a question for discussion this evening. Without doubt in institutions where it has been possible to remove the danger of infection prior to birth, Credé's method, or one of its modifications, is the proper procedure, but I question whether it is the proper remedy to place in the hands of improperly instructed persons. On this point I quote again from Mr. Harman: "The local establishment of a prophylactic would at once dispel any ignorance as to the nature of the contagion intended to be combatted, and the vast majority would strenuously resist the passing of a measure intended for the safety of a few to the branding of all. It probably would result in making the measure inoperable, and not only so, there would be danger of making the measure inoperative in just those great institutions where its present use has accomplished the most remarkable results." On the other hand, Mr. Mayou considers this to be an entirely false objection to this treatment, and believes that it is responsible for the majority of cases of the disease which still exist in his country. He disputes that this compulsory prophylaxis would cast a slur on the character of the parents of the children, because only about 65 per cent. of the cases are due to the gonococcus, and as infection may take place after the birth of the child, this seems to him sufficient to do away with the objection,

taking into account the serious nature of the disease. I have endeavored to find out, with the aid of the Secretary of the Committee on the Prevention of Blindness of the New York Association for the Blind whether any advantage or disadvantage has been derived from the compulsory distribution of a prophylactic against ophthalmia neonatorum. Four states have secured appropriations ranging from $2,500 to $5,000 for this purpose, and two others are endeavoring to do the same thing. In a sense, however, a distribution is not compulsory because the prophylactic tubes are distributed through local health officers to physicians and midwives who apply for them. The files of this office have at the present time no statistics to offer as to advantage or disadvantage under these circumstances, except that they show that the Commissioner of the New York State Department of Health has renewed his request for an appropriation for this purpose for three successive years. It would seem that this is a question which must be ultimately settled, as the Committee of the American Medical Association points out, by a consultation between the committees of experienced physicians which exist in each state and the Department of State Public Health. Just because, as Surgeon-General Kerr aptly says, the activities of the sanitarian are too often confined to pointing out the evils of the disease which he has no means at his disposal to combat, we must turn to society as a whole, "which must utilize the knowledge at its disposal and furnish the means to eliminate the disease." Therefore the dissemination of this knowledge through the channels which I have described becomes an important part of our effort to wipe this disgrace from civilized lands.

(c) *Concerning Compulsory Notification.* According to Assistant Surgeon-General Kerr,[7] the first legal steps taken by any state to control ophthalmia neonatorum in the United States were those of Maine in 1891. One year later New York followed with an amendment to the law relative to midwives and nurses. Up to April 12, 1911, twenty-five states and the District of Columbia have taken legislative action. The Sanitary Code of Louisiana also contains provisions with respect to ophthalmia neonatorum. The provisions of the several laws vary and time does not permit a description of these variations.[8] In general terms the provisions of the "Howe law," as it is often called, are followed, which requires that inflammation and swelling of infants' eyes shall be reported by nurses, midwives or other persons in attendance. In one or two other states physicians are also required to give notice of cases of ophthalmia neonatorum Unfortunately, the provisions of the law are not always actively operative in many of these states. Indeed, on the report of the Committee on Prevention of Blindness of the New York Association for the Blind the law is inoperative in all States except Massachusetts and Ohio.[9]

Now let us see what happens where it is operative. In 1910 the Massachusetts State Board of Health sent to each physician four separate notices of this reporting law. Such notices apparently proving insufficient, the Boston Board of Health instigated a test prosecution. An ophthalmia case was chosen which was not of the most virulent character and the

[7] Loc. cit. Public Health Bulletin, No. 49.
[8] For information on this point consult Public Health Bulletin No. 49.
[9] Personal communication.

child did not become blind, and yet the court convicted the physician for failing to report, and the Superior Court sustained the decision. One month prior to this conviction the number of returns under the law had been 10; a month afterward the number was 20. As there were no prosecutions during the succeeding month, the number of reports fell back to 10. Again there were prosecutions successfully carried through, and the returns rose during the next four months to 15, 32, 97 and 116 respectively. The Society for Promoting the Interests of the Blind in Cleveland[10] secured a warrant for the arrest of a midwife who had failed to report the affection, and this was immediately followed by the report in less than two weeks of 8 cases of ophthalmia neonatorum, in every one of which the eyes were saved. The object of all of the laws to which reference has been made is to insure promptness in the early treatment of ophthalmia neonatorum, hence to the home of a poor man a competent nurse can be dispatched, who shall properly take care of the treatment and see that it is carried out. I could give many instances, if I chose, in the Social Service of the University Hospital in Philadelphia, where our workers on the first intimation of the presence of ophthalmia neonatorum in a family have promptly secured proper attention for the child, in the home, or if this was impossible, transferred the child to one of the wards where suitable treatment can be applied. So successful has this system been in Boston that since it has been instituted, and it is known there as the "follow-up system," not a single known cases of the disease has resulted in blindness.

[10] Fourth Annual Report, 1909-10.

Now while all of the present laws contain some good provisions, *e. g.*, registration of births, instruction on ophthalmia neonatorum, reporting of cases by midwives, parents, nurses and physicians to health authorities, control of midwives, free medical attendance, etc., a uniform law containing all such provisions should be enacted if we are successfully to control the ravages of ophthalmia neonatorum. Even as it is, taking it all in all, there is much truth in what Lucien Howe has said, that the law compelling nurses of all kinds, midwives, etc., to report these cases of ophthalmia neonatorum practically at once to some legally qualified practitioner, or to some responsible board, represents the most effective method at our command. This secures, as I have just shown, promptness in treatment, and evidently, again to quote Howe, when the strong hand of the law reaches out to a person, no matter who he or she may be, who trifles with the vision of an infant, the effect is extremely salutary.

In the majority of the states the laws do not require, as they do in France, that ophthalmia neonatorum shall be reported in the same manner as any other communicable disease. One of the objections that is constantly urged against the inclusion of this affection in the list of communicable diseases is that such reporting would be resented by the community at large, and particularly resented by the family from which the report was made. It must be remembered, however, that a large percentage of cases of ophthalmia neonatorum are not due to Neisser infection, and when this is more generally understood a report of this character is in largest measure robbed of its stigma. As Mr. Harman well puts

it, "notification offends the scruples of no one, not even of those affected by the notification, if it be done decently. Besides, it would be welcomed by the general sense of self-preservation, for the disease is contagious and dangerous."

Trachoma. This disease, which first attracted notable attention toward the close of the 18th and the beginning of the 19th century on account of its dissemination through Europe by soldiers returning from Napoleon's Egyptian campaign is an affection that has a far more ancient lineage than this period. It is described in the Ebers papyrus, the oldest medical book on record, written during the height of Egyptian civilization in the 18th dynasty, 1553 B. C., and therefore more than a thousand years before Hippocrates flourished, and from time immemorial it has been endemic in Europe. Its name is derived from a Greek word meaning "rough" or "roughness," because it is an affection of the lining membrane of the eyelids, whereby numerous small bodies known as trachoma bodies, or follicles, are developed, which change the normal smooth surface of this membrane into a rough granular condition, hence the common name "granular lids." Sometimes appearing in acute manifestation, it is usually characterized by chronicity from its incipiency and always in its duration, as it may last for months and years and decades. Unchecked or untreated, it is liable to affect the clear tissue which caps the front of the eye, the corneal window through which the rays of light must pass to give us sight, causing it to lose its transparency or pass into actual ulceration. From this occurs great depreciation of vision, and in a certain percentage of cases blindness. As a cause of total blindness the percentage has varied

in different statistical inquiries from 1.7 to 9.1 per cent., figures which fail utterly to give an adequate idea of the ravages of this disease in so far as useful sight is concerned, as the affection in some regions and lands has by its vitiation of vision disabled villages and districts. Much labor has been expended in the search for the exact nature of the contagious element, and time does not permit an analysis of these investigations, but out of all the confusion and contradictory observations which have been made in connection with trachoma, the contagious character of the affection in some of its stages and phases stands today clear and undoubted. From our present knowledge it must be admitted that trachoma extends more or less over the entire world, and in this sense is a universal disease. Fostered by ignorance, poverty and social misery, trachoma is essentially a disease among the poor, among whom it slowly gains ground. Although its subjects are often pale and anemic because of imperfect hygienic surroundings, there is no known constitutional disorder which produces the disease, and it may attack those who are in perfect health and does not respect those, other things being equal, whose lines are not cast in the quarters of poverty. A certain racial predisposition to trachoma has been maintained, the Mongolian race being especially liable to the disease, but throughout Asia trachoma is known to be no respecter of race, the Aryan, Semitic and Mongolian suffering with equal and terrible frequency. It is exceedingly common among the poorer classes in Ireland and Eastern Europe, especially in Poland, Russia, Hungary and certain districts in Prussia. Jews of the lower social order are most prone to be affected, and it is

frequent among Italians of the lower classes, especially those who dwell in the south of Italy. For years it has been endemic in Egypt and equally endemic in Syria, Persia, Central Asia, China and Japan. The Indians of our own country are frequently attacked, and in certain regions of the United States native Americans are frequently infested with the disease, notably in some parts of Illinois, Kentucky and West Virginia. In short, it may under favorable conditions, exist and spread in any part of the world into which it is introduced.

This disease offers a serious menace in our own country and gives the greatest concern to national, state and municipal authorities. Since 1897 our national government has maintained a strict inspection by which we are in a measure guarded against trachoma. In foreign treaty ports where the United States government maintains a marine hospital surgeon, during the fiscal year July 1, 1907, to June 30, 1908, 6,400 aliens, would-be passengers, were discovered to have trachoma, and their rejection was recommended to the transportation companies, that is, all were refused certification for embarkation.

Trachoma in England at the present time is an alien disease, imported by aliens, propagated amongst aliens and handed on to the native population by aliens. So Mr. J. Herbert Parsons wrote in 1904, and added somewhat bitterly, "Consistent with England's well-earned reputation for philanthropy, we are indeed acting as a trachoma filterbed to the United States." The aliens immigration law failed to pass in that year in London. Like some other filters, this one would appear to be somewhat leaky. The number of aliens entering at the port of New York during the fiscal

year 1908-1909 was 724,757, among whom 1,083 cases of trachoma were discovered, and during the same year among all aliens entering at the various ports of the United States 2,084 trachoma subjects were stopped or debarred, which is one-fifth of the whole number of aliens denied entrance during that priod. In 1909 in New York the Municipal Board of Health had figures representing in that city 7,090 cases of trachoma, a number which will admittedly decline under more stringent methods of diagnosis. These data would seem to be sufficient to indicate how exceedingly important it is that the hands of the immigration authorities should be upheld in their well-directed efforts to check further introduction of this disease into our own country, where, unfortunately, it has already gained too firm a foothold.

Time does not permit a discussion of the methods which must be employed. They include, or should include, and happily often do include, rigorous inspection of aliens, equally rigorous inspection of children entering public schools, the establishment of isolation hospitals, or, at least, of wards where isolation of trachoma patients may be carried out, house-to-house inspection in crowded tenement quarters, as it may be accomplished by social workers and the employes of college settlements, and the vigorous exclusion of those who are affected from coming in contact with those who are not affected. While all laws should be administered with decency and with due respect to humane principles, it is the greatest possible mistake to permit unwise sentiment to hamper the authorities in their struggle for the elimination of this disease.

While it does not frequently produce total

blindness, it produces, not infrequently the greatest disability of vision and destroys the working efficiency of the subject it attacks, rendering him at the same time a menace to his neighbors and to his family. A disease which was able more than the Marmalukes and their allies to defeat the great Napoleon on the plains of Egypt is not a disease that must be treated with anything but the most vigorous methods.

Again time does not permit the discussion of other causes of acquired blindness, notably that great class of cases to which the term "industrial blindness" is constantly applied, nor the methods which factories, manufacturing institutions, mills, etc., must and should take to prevent their workmen from losing or marring their vision in the course of their labors. This would constitute a separate and a long chapter.

So, too, it must not be forgotten that school inspection is of the utmost importance in early detecting that disease so common among children of strumous habit, and surrounded by imperfect hygienic conditions, and often subject to the evils of bad dietetic regimen, which is called phlyctenular keratitis, and which in all probability represents one of the attenuated forms of ocular tuberculosis. It would be most interesting if one could trace with high commendation the excellent new methods of handling this disease which social workers of large hospitals, like those of the Massachusetts General in Boston, of the University Hospital in Philadelphia, and many others, have ordained. In this work these children thus affected are brought together in classes, exactly as are the tuberculosis subjects, and their whole habit of life regulated by personal care from the social workers. Since this technic has

been introduced, for example, in my own service, there has been a notable decrease in the ravages of this affection. True, it rarely, or practically never produces total blindness, but the scars that it leaves upon the cornea only too frequently condemn its subjects to the misery of imperfectly seeing and therefore imperfectly working eyes.

I cannot say too much in favor of our modern school inspections, because not only is it possible through them to eliminate the influence of some of the diseases to which I have made reference, but because in its earliest stages the presence of the errors of refraction are found, and corrected, and thereby the influence, the most potent influence, of this condition of affairs is taken from the children. I have no doubt that as time goes on and these inspections become more perfect, much of the misery of so-called eye-strain and the evil effects which it produces, not only on the health and happiness of its subjects, but upon the vision of their eyes, notably in the creation of progressive and malignant forms of myopia, will be eliminated, and we may have a reasonable hope that in future generations eyes will be better constructed and less liable to some of these affections.

Care of the Blind Child. We have now to consider for a few moments the care of the blind child, or perhaps, in a broader sense, his education. In the words of Sir James Crichton-Browne, "It has been demonstrated that blindness can be circumvented, and that the blind by special education can be lifted out of their blindness and can be prepared for future usefulness and independence."

There is a disposition to put blind persons in a class. "Indeed," in the language of Mr. E. E.

Allen, "in the public mind lack of sight naturally creates a class, but the blind must not be lumped together. They should be considered to be made up of individuals who differ among themselves quite as much, if not more, than other people." It should further be remembered that careful observations show that blind children, as Mr. O. H. Burritt[11] has well shown, are at least two years behind seeing children of identical age, that the blind child does not walk at as early an age as the child with sight, that the blind child cannot attend to the simple little necessities of the toilet, for example, cannot, or usually cannot, wash and dress itself at the same age that a seeing child can, that a blind child of necessity, because it has always naturally been helped, rarely acquires the sense of self-dependence. Therefore from the very beginning in the home, before the child enters an institution, or if the child comes young to any institution, education along these lines should begin and every effort should be made, as Mr. John Cadwalader puts it, to educate these unfortunates, in the sense of self-dependence.

Now I cannot in this brief period take up the questions of the education of blind children either in their relationship to seeing children, or in their relationship one to the other in so far as the period of their blindness is concerned, or in so far as the forwardness or backwardness of their mental processes affect the problem. We should, I think, once for all understand that the notion that the loss of any special sense of itself improves remaining senses is not warranted by

[11] New Opportunities for Blind Children Before Entering School. A paper read before the First International Congress of Mothers on the Welfare of the Child, Washington, D. C., March 10, 1908.

facts. Indeed, it is probable, as Mr. Armstrong has pointed out, that the loss of sight tends to make other senses less sensitive. Now this being the case, I believe that much could be accomplished in the great institutions devoted to the education of the blind and much additional good work could be added to the splendid record which they have already made if with each institution there was associated a psychological laboratory and a trained psychologist. Mr. Allen quotes one of his instructors thus: "In order to be a successful teacher of the blind, it is essential to follow Rousseau's advice, 'study your pupils more, for I tell you you do not understand them'." Now it is just this study of the pupils which could be materially helped by a sensible application of the principles of modern psychological research. This subject I have studied a little particularly with the efficient Superintendent of the Pennsylvania Institution for the Instruction of the Blind at Overbrook, Mr. Burritt, and I agree with him that the establishment of such psychological investigation would bring about practical results. With the right man in the place, who would not permit his regard for strict scientific investigation to shunt him from the practical bearing of his studies in the education of blind boys and girls, such problems as the proper classification of blind children according to the degree of their mentality, the effect of partial sight, the bearing on the future careers and education of the children which the age at which they become blind exercises, the differences between those who have always been blind, or who have been blind from early childhood, and those who become blind later in life, the quality of the sensitiveness of the unaffected

senses, would find a more ready solution in the future than they have in the past. As Professor Angell has written me, "I think the most useful line of approach is one which would involve the careful study of the development factors in the minds of the congenitally blind, with a comparison of the mental conditions of those who lose their sight at various stages along the age line." I am not sure, but I think it is not improbable, and in this Professor Witmer of the University agrees with me, that with the collection of accurate data in many institutions much help could be rendered to those who have in charge the vexed problem of the best alphabet for the blind, and I believe that the Uniform Type Committee of the Association of Workers for the Blind would welcome such an investigation. I suspect also that it would help in the solution of another question which agitates the workers among the blind, namely, how to deal with the backward or mentally deficient child, and whether or not he shall be included in the general class, or be separated into what the Germans call "abschluss Klassen."

Those who are congenitally blind, or who have attained blindness at an extremely early age, are necessarily timid, helpless, lacking in decision, and often somewhat mentally inert and defective, because of lack of stimulation of their visual centers, the main channel of which has been blocked, but to quote Sir James Crichton-Browne, "many other inlets remain open, and they may by educational engineering, be utilized, widened, extended, multiplied, until the visual center has all that is requisite to enable it to shake off its lethargy, to expand, and to perform its associative if not its primary function." Naturally, I am most fami-

liar with the work at the Pennsylvania Institution for the Instruction of the Blind, and therefore I may be permitted to speak of what is sometimes known as the "Overbrook idea," where the fundamental motive in teaching is an appeal to the motor centers. As Mr. Samuel H. Bishop has said,[12] "blind children are lacking the main agent of observation, therefore the power of observation of that class of pupils is small, and they must be reached chiefly through their motor centers; they must learn by doing, and the power of acquiring is stimulated through action." He takes as an example the teaching of geography, where each pupil makes his own map with cushioned paper and brass-headed tacks, points being located on scale measurement, and later outlined paper maps are supplied in abundance in the printing office.

Although stimulation of these motor centers is so important, necessarily education is not confined to waking up their activities. Not long ago it would seem that the blind must be contented to learn how to cane chairs or make mattresses or brooms; now we know that by reason of practical and industrial education wide fields have been opened. They are sensitive, made happy readily, easily depressed, but when in any school the knowledge is disseminated that some one member of that school has gotten a good bread-winning education, the effect in elevating the happiness and effort of the remaining scholars is extraordinary. The over-cautiousness of the blind is well known. This has in largest measure been met by developing among the blind children a love of and an activity in athletic sports.

[12] The New Basis of Work for the Blind, *Century Illustrated Monthly Magazine*, May 19, 1909..

Twenty-five years ago the first swimming pool as part of an equipment of a school for the blind was built at the Royal Normal College for the Blind in London; in 1907 our pool at Overbrook was established, the first, I think, for the exclusive use of the blind in this country, and it is an astonishing thing to see these blind children acting in all respects as seeing children do in this pool of water, astonishing, too, to observe how rapidly they learn to swim, and in learning how their confidence is improved and their initiative stimulated.

Accuracy and precision are secured perhaps nowhere better than in the bowling alley. It may seem amazing that blind children can bowl well and set up the pins accurately, but they do this. As Mr. Burrit has pointed out, they do it better than children who have only a little sight, because the latter having a little sight try to depend upon this, and fail in attaining what is the entire object of the bowling alley, the developing of tactile sense. But just as exercises within walls becomes irksome to seeing children, and for that matter to seeing grown-ups, so too, it may happen with the blind, and therefore out-of-door athletic sports are of the utmost importance, and it is astonishing to see the joy with which these children indulge in them, sometimes only with the simpler apparatus like a merry-go-round, but often in real track athletics, where, for example, the runner guides himself by holding onto a wooden handle attached by a short flexible chain to a ring on a long piece of wire. The ring slips along as he runs, and by feeling and by sound he is enabled to maintain his course. As Mr. Bishop well puts it, "this type of exercise increases the blind boy's physical courage, as well

as his confidence, and this increase of courage is not physical merely, but enters into the pupil's view of life and into his effort."

It is unnecessary to multiply examples. The effort which we make through stimulation of the motor centers and through the elevation of the child's confidence must be apparent. I cannot refrain, however, from pointing out one important method of dealing with the physical and to a certain extent the mental education of blind children, to-wit, the classes in gardening. Each child in the kindergarten, for example, has his own plot, which he cultivates with enthusiasm. The children themselves will testify, even in their earliest years and experience, and still more as time goes on and the gardening becomes a real occupation, that they not only have been taught how the seeds grow from the earth, and how the earth must be treated in order that the seeds shall grow, but they learn accuracy, they gain health, and in the language of one of them, "gardening gives us lots of pleasure."

It must not be assumed because in well-conducted schools for the blind the education of the hands through the various lessons which are taught, notably, in piano-tuning, caning of chairs, broom-making, massage and the like, is so constantly utilized in the development of the brain that the matter ends here, or that we make the mistake, which is sometimes only too evident in the colleges and schools to which seeing children go, of creating an over-importance in athletics, or that there is a too strenuous and early beginning of these athletic exercises. As Mr. Allen, quoting G. Stanley Hall, points out, "fundamental muscles must be brought into proper training and later on the finer accessory muscles, like those

of the hands and fingers and tongue are taught their necessary function." When this lesson has been learned, the older children are prepared and fitted for other occupations, typewriting, writing and the like, and so with the development first of fundamental muscles and later of accessory muscles, the receptivity of the brain centers increases, and with stimulation of mental development, physical courage and confidence having previously been attained, many of these children are able quite well to take their place with seeing children in real school duties, and we find boys and girls attending with satisfaction to themselves and to their teachers classes in high schools, colleges and universities, graduating with distinction, and becoming practically as useful members of society as any one who has not been deprived of the sense of sight. Many of them have become proficient in English history, ancient and modern languages, mathematics, music, indeed, in any kind of school work where sight is not imperative, as in laboratory work.

I would like to point out that because piano-tuning is one of the best of the bread-winning occupations to which the blind can turn, if a blind boy or girl shows musical ability, this is trained, but any teacher of the blind will testify that it is a mistake to force non-musical children into efforts intended to result in musical education. Blindness does not give musical ability, but it also does not destroy it; only if it is present does its training become important. Finally, it is with no little satisfaction that, for example, at Overbrook, we can point to the success of our graduates and to the long list of occupations with which they are concerned. Great care has been taken to trace the careers of our

graduates, and 85 per cent. of all of them are succeeding. All manner of occupations, broom-making, chair-caning, business-house positions, massage, pianists, teachers of music, typewriters, field agents, social workers, tutors to the blind, etc., are represented. It is a long, satisfactory and inspiring list. These men and women, no longer in the class of "unfortunates," are useful, satisfactory, bread-winning members of the community. The sting of their misfortune has been removed; they have acquired the joy of self-dependence and of successful effort. Blindness has been circumvented.

BROOKLYN EAGLE PRESS.

PAMPHLET BINDERS

This is No. [redacted] 1525

also carried in stock in the following sizes

	HIGH		WIDE	THICKNESS
1523	9	inches	7	inches ½ inch
1524	10	"	7	" "
1525	9	"	6	" "
1526	9¾	"	7½	" "
1527	10½	"	7¾	" "
1528	11	"	8	" "
1529	12	inches	10	inches ½ inch
1530	12	"	9¼	" "
1932	13	"	10	" "
1933	14	"	11	" "
1934	16	"	12	" "

Other sizes made to order.

MANUFACTURED BY

LIBRARY BUREAU

Division of REMINGTON RAND INC.

Library Supplies of all kinds